Key: OS = Online Safety; DL = Digital Literacy; IS = Internet Savviness!; PR = Programming; LO = Logic

Area **Algorithms**

Code	AL1-a	AL1-b	AL1-c	AL2-a	AL2-b	AL2-c	AL2-d	AL3-a	AL3-b	AL4-a	AL4-b	AL4-c	AL4-d
Descriptor	Understands what an algorithm is and is able to express simple algorithms symbolically as a sequence. (LO)	Understands that computers need precise instructions in sequence. (PR) (LO)	Demonstrates care and precision to avoid errors. (LO)	Understands that algorithms are implemented on digital devices as programs. (LO) (PR)	Designs simple algorithms using a sequence and repetition (loops). (LO) (PR)	Uses logical reasoning to predict outcomes. (LO)	Detects and corrects errors i.e. debugging, in algorithms. (LO) (PR)	Designs simple algorithms using selection i.e. if/then statements. (LO) (PR)	Uses logical reasoning to predict outputs, showing an awareness of inputs. (LO) (PR)	Designs solutions (algorithms) that use repetition and two-way selection (if, then and else) (LO) (PR)	Shows an awareness of tasks best completed by humans or computers. (DL)	Designs solutions by decomposing a problem and creates a sub-solution for each of these parts. (LO) (PR)	Recognises that different solutions exist for the same problem. (LO)
K1 BeeBot Fun	X	X	X	X		X	X						
K1 Scratch Jnr	X	X	X	X	X	X	X						
K1 Graphics													
K1 Animation													
K1 eBooks													
K1 Searching Online													
K1 Online Safety Introduction													
K1 Online Safety Experts													
K2 Scratch Animation	X	X	X	X	X	X	X						
K2 Scratch Quiz	X	X	X	X	X	X	X	X	X	X	X		X
K2 Scratch Game	X	X	X	X	X	X	X	X	X	X	X	X	X
K2 Microbits	X	X	X	X	X	X	X	X	X	X	X	X	X
K2 Networking													
K2 Animation													
K2 Green Screen													
K2 Choose your own adventure													
K2 GarageBand													
K2 eBook													
K2 Audio Podcast													
K2 Spreadsheets													
K2 SMART Introduction													
K2 Online Safety Comic													
K2 Online Safety Presentation													
K2 SMART Podcast													

		Programming & Development												
AL5-a	AL5-b	PD1-a	PD1-b	PD1-c	PD2-a	PD2-b	PD2-c	PD3-d	PD3-e	PD3-f	PD4-a	PD4-b	PD4-c	PD4-d
Recognises that different algorithms exist for the same problem. (LO) (PR)	Represents solutions using a structured notation. (PR)	Knows that users can develop their own programs, and can demonstrate this by creating a simple program in an environment that does not rely on text e.g. programmable robots etc. (PR)	Executes, checks and changes programs. (PR)	Understands that programs execute by following precise instructions. (PR)	Uses loops, within programs. (LO) (PR)	Uses logical reasoning to predict the behaviour of programs. (LO) (PR)	Detects and corrects simple semantic errors i.e. debugging, in programs. (LO) (PR)	Uses arithmetic operators, if statements, and loops, within programs. (LO) (PR)	Creates programs that implement algorithms to achieve given goals. (LO) (PR)	Uses post-tested loop e.g. until, and a sequence of selection statements in programs, including an if, then and else statement. (LO) (PR)	Declares and assigns variables. (PR)	Understands the difference between, and appropriately uses IF and IF, THEN and ELSE statements. (LO) (PR)	Designs, writes and debugs modular programs using procedures. (PR)	Knows that a procedure can be used to hide the detail with sub-solution. (PR)
		X	X	X		X	X							
		X	X	X		X	X							
		X	X	X	X	X	X		X					
X	X	X	X	X	X	X	X	X	X		X	X		
X	X	X	X	X	X	X	X	X	X	X	X	X		
X	X	X	X	X	X	X	X	X	X	X	X	X		

Data & Data Representation										Hardware & Processing				
DR1-a	DR1-b	DR2-a	DR2-b	DR2-c	DR3-a	DR3-b	DR3-c	DR4-a	DR4-b	HP1-a	HP1-b	HP2-a	HP2-b	HP2-c
Recognises that digital content can be represented in many forms. (DL)	Distinguishes between some of these forms and can explain the different ways that they communicate information. (DL)	Recognises different types of data: text, number, image. (DL)	Appreciates that different software can work with different types of data. (DL)	Recognises that data can be structured in tables to make it useful. (DL)	Understands the difference between data and information. (DL)	Knows why sorting data in a file can improve searching for information. (DL)	Uses filters or can perform single criteria searches for information in a database or spreadsheet. (DL)	Performs more complex searches for information e.g. using Boolean and relational operators. (DL)	Analyses and evaluates data and information, and recognises that poor quality data leads to unreliable results, and inaccurate conclusions. (DL)	Understands that computers have no intelligence and that computers can do nothing unless a program is executed. (DL) (PR)	Recognises that all software run on digital devices is programmed. (LO) (DL) (PR)	Recognises that a range of digital devices can be considered a computer. (DL)	Recognises and can use a range of inputs and outputs. (DL)	Understands how programs specify the function of a general purpose computer. (DL)
										X	X	X		
X		X	X							X				
X		X	X											
		X	X											
X	X	X	X											
X	X	X					X							
		X												
X		X	X							X	X			
X		X	X							X	X		X	
X		X	X							X	X		X	
X		X	X							X	X	X	X	X
X	X	X					X		X					
X		X	X											
X		X	X											
X	X	X	X											
X		X	X											
X	X	X	X											
X	X	X	X											
X		X	X	X	X		X		X					
X		X	X											
X		X	X											
X		X	X											

							Communication & Networks						
HP3-a	HP3-b	HP4-a	HP4-b	HP4-c	HP5-a	HP5-b	CN1-a	CN1-b	CN1-c	CN2-a	CN2-b	CN3-a	CN3-b
Knows that computers collect data from various input devices, including sensors and application software. (PR)	Understands the difference between hardware and application software, and their roles within a computer system. (PR) (DL)	Understands why and when computers are used. (DL)	Understands the main functions of the operating system. (DL)	Knows the difference between physical, wireless and mobile networks. (IS)	Recognises and understands the function of the main internal parts of basic computer architecture. (DL)	Knows that there is a range of operating systems and application software for the same hardware. (DL)	Finds content from the world wide web using a web browser. (IS) (DL)	Understands the importance of communicating safely and respectfully online, and the need for keeping personal information private. (OS) (IS)	Knows what to do when concerned about content or being contacted. (OS)	Navigates the web and can carry out simple web searches to collect digital content. (IS) (DL)	Demonstrates use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. (OS) (IS)	Understands the difference between the internet and internet service e.g. world wide web. (IS)	Shows an awareness of, and can use a range of internet services e.g. VOIP, online document editing, video etc. (IS)
							X	X		X	X		
								X	X		X		
								X	X		X		
X													
	X	X		X			X			X	X	X	X
		X					X	X					X
		X						X	X		X		
								X	X		X		
								X	X		X		
								X	X		X		

					Information Technology									
CN3-c	CN4-a	CN4-b	CN5-a	CN5-b	IT1-a	IT1-b	IT1-c	IT1-d	IT1-e	IT2-a	IT2-b	IT2-c	IT2-d	IT2-e
Recognises what is acceptable and unacceptable behaviour when using technologies and online services. (OS) (IS)	Understands how to effectively use search engines, and knows how search results are selected, including that search engines use 'web crawler programs'. (IS)	Selects, combines and uses internet services. (IS)	Understands how search engines rank search results. (IS)	Understands how to construct static web pages using HTML and CSS. (IS) (LO) (PR) (DL)	Uses software to create, store and edit digital content using appropriate file and folder names. (DL)	Understands that people interact with computers. (DL)	Shares their use of technology in school. (DL)	Knows common uses of information technology beyond the classroom. (DL)	Talks about their work and makes changes to improve it. (DL)	Uses technology with increasing independence to purposefully organise digital content. (DL)	Shows an awareness for the quality of digital content collected. (DL)	Uses a variety of software to manipulate and present digital content: data and information. (DL)	Shares their experiences of technology in school and beyond the classroom. (DL)	Talks about their work and makes improvements to solutions based on feedback received. (DL)
						X	X		X					
					X	X	X		X	X				X
					X	X	X		X	X		X		X
					X	X	X		X	X		X		X
					X	X	X		X	X		X		X
						X	X	X	X		X			
						X	X	X						
						X	X	X	X		X		X	X
					X	X	X		X	X		X		X
					X	X	X		X	X				X
					X	X	X		X	X				X
		X			X	X	X		X	X				X
X	X	X	X			X	X	X	X		X		X	X
					X	X	X		X	X		X		X
					X	X	X		X	X		X		X
		X			X	X	X		X	X		X		X
					X	X	X		X	X		X		X
		X			X	X	X		X	X		X		X
					X	X	X	X	X	X	X	X		X
					X	X	X		X	X		X		X
X						X	X	X	X		X			
X		X			X	X	X		X	X		X	X	X
X		X			X	X	X		X	X		X	X	X
X		X			X	X	X		X	X		X	X	X

IT3-a	IT3-b	IT3-c	IT4-a	IT4-b	IT4-c	IT4-d	IT5-a	IT6-a	IT6-b
Collects, organises and presents data and information in digital content. (DL)	Creates digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience e.g. blogging. (DL)	Makes appropriate improvements to digital content based on feedback received, and can comment on the success of the solution. (DL)	Makes judgements about digital content when evaluating and repurposing it for a given audience. (DL)	Recognises the audience when designing and creating digital content. (DL)	Understands the potential of information technology for collaboration when computers are networked. (DL) (IS)	Uses criteria to evaluate the quality of solutions, can identify improvements making some refinements to the solution, and future solutions. (DL)	Evaluates the appropriateness of digital devices, internet services and application software to achieve given goals. (IS) (DL)	Justifies the choice of and independently combines and uses multiple digital devices, internet services and application software to achieve given goals. (DL)	Evaluates the trustworthiness of digital content and considers the usability of visual design features when designing and creating digital artifacts for a known audience. (IS) (DL)
X									
X									
X									
X									
		X		X					
		X		X					
		X		X					
		X		X					
			X		X				
X		X		X					
X	X	X		X		X			
X	X	X		X		X			
X		X		X		X			
X	X	X		X		X		?	?
X		X		X					
X				X					
X	X	X	X	X		X	?	?	?
X	X	X	X	X		X	?	?	?
X	X	X	X	X		X	?	?	?